



Spiritual Spaces: Chapels and Music to Improve the Healthcare Environment and the Healing Experience

*Presented by
Annette Ridenour*

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© C A

The Universal Chapel

The universal chapel is a place where any person, no matter where they are on their spiritual or life path, can enter and find a sense of calm, a sense of peace, an invitation to reflection, and an opportunity to reconnect with the higher presence within.

*Leah Goodwin
Director of Arts Programs
Aesthetics, Inc.*



*Saint
Francis
Hospital
Evanston,
Illinois*



*Mercy
Chapel
Bakersfield,
California*



*Perry Chapel, MD Anderson Cancer Center
Orlando, Florida*



*Prodigals
Community,
Recovery
Ministries for
Drug-Free
Living
Winston-
Salem, North
Carolina*



*Children's Hospital &
Regional Medical Center
Seattle, Washington*



*Luther Seminary
St. Paul,
Minnesota*



*Eastern
Kentucky
University
Richmond,
Kentucky*





Lake Lady Labyrinth
Northshore of Lake Ponchartrain, about 30 miles
from New Orleans, Louisiana
Photos by Jake Prescott



University of Dundee
United Kingdom

Chapel Design

How do you create a space that nurtures every person's spiritual well being?

"A sacred place can be defined as such because it emanates an influence which goes beyond its physical form. It influences the psyche of man, his surroundings and sometimes even his nature. Temples provide an aura of purity and peace."

*Sacred Places:
A Journey Into the Holiest Lands
Sara Ann Osmen*

Design Decisions

- A multiple-faith spiritual space
- Individual sacred spaces for each faith
 - Chapel
 - Temple
 - Mosque
 - Synagogue
 - Garden

Design Decisions

- Determine right-sizing based on usage
- Analyze orientation/direction of the room
- Create an ante room
- Develop a series of experiences
- Provide areas for personal experiences
- Design the acoustics (minimize air conditioner noise, etc.)

Visioning with the Community

Develop iconic elements that support the religious and spiritual experience.

Universal themes that are present in all religions:

- Light
- Prayer
- Meditation
- Symbols
- Music

Light

“Light has been, for centuries, the most central of sacred elements. From the very earliest monuments such as Newgrange where the light of sun and moon were employed to indicate the seasonal changes, up to the cathedral stained glass window where light is employed to enlighten the saints and the holy.”

*Sacred Places:
A Journey Into the Holiest Lands
Sara Ann Osmen*



Photo © www.newsfile.ie



Photos by Laurie Young



Newgrange
County Meath, Ireland

Our Lady of the Savior Cathedral

Aisne, Laon, France



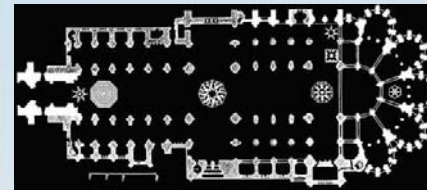
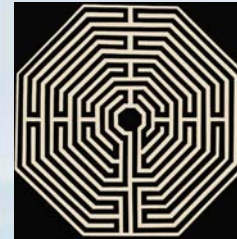
Roman Catholic Cathedral

Paramaribo, Suriname



The Basilica of St. Quentin

Aisne, Laon, France



Prayer

Prayer is usually a personal experience—a request to the Great Spirit, Creator, God, Higher Power, Allah, Jehovah, or other identifying name. There is often a set order of words, or actions—kneeling, rocking, or chanting—involved in prayer. Prayer is a desire, a wish, and a way to let go and surrender the human worry to a higher presence.

A multiple-faith spiritual space acknowledges the prayer needs of a diverse religious population.

Prayer



Calligraphic Composition containing Quranic verses including the Basmala (India or Iran, early 19th century).

O mankind, there has come unto you a direction from your Lord and a healing for the heart and for those who believe in guidance and mercy.

Qur'an 10:57

Prayer

Hear my cry, O God; attend unto my prayer.
From the end of the earth will I call unto Thee,
when my heart fainteth;
lead me to a rock that is too high for me.
For Thou hast been a refuge for me,
a tower of strength in the face of the enemy.
I will dwell in Thy Tent for ever;
I will take refuge in the covert of Thy wings.

Psalms 61: 2-5

Prayer

May I become at all times, both now and forever
A protector for those without protection
A guide for those who have lost their way
A ship for those with oceans to cross
A bridge for those with rivers to cross
A sanctuary for those in danger
A lamp for those without light
A place of refuge for those who lack shelter
And a servant to all in need.

His Holiness the Dalai Lama

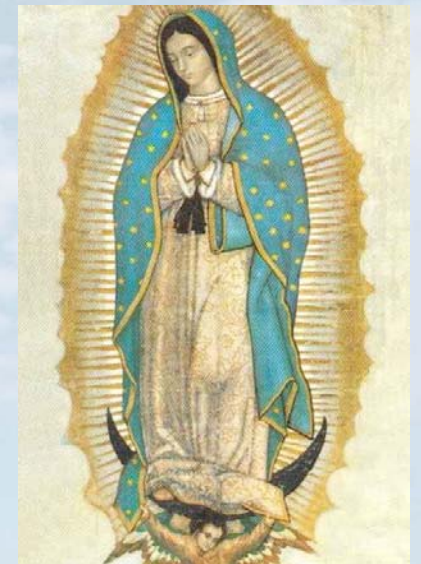
Prayer

May all beings everywhere plagued with sufferings of
body and mind quickly be freed from their illnesses.
May those frightened cease to be afraid, and may those
bound be free.
May the powerless find power, and may people think of
befriending one another.
May those who find themselves in trackless, fearful
wilderness – the children, the aged, the unprotected –
be guarded by beneficent celestials,
and may they swiftly attain Buddhahood.

The Buddha

Prayer

*Prayer To Our Lady of
Guadalupe*
Dear Blessed Mother, Our Lady
of Guadalupe,
Patroness of the Americas, pray
for us now.
You who renewed the faith of the
lowly and the oppressed, hear
my cry for help.
Ask your Son, Jesus, to calm my
fears; heal my body; touch my
heart;
protect my family; and fill me
with deep faith.
Amen.



*Virgin of Guadalupe
(16th century)*

Prayer

Mother, sing me a song
That will ease my pain,
Mend broken bones,
Bring wholeness again.
Catch my babies
When they are born,
Sing my death song,
Teach me how to mourn.
Show me the Medicine

Of the healing herbs,
The value of spirit,
The way I can serve.
Mother, heal my heart
So that I can see
The gifts of yours
That can live through me.
*Native American
Prayer*

Meditation

There are thousands upon thousands of students who have practiced meditation and obtained its fruits. Do not doubt its possibilities because of the simplicity of the method. If you cannot find the truth right where you are, where else do you expect to find it?

*The Practice of Meditation
Zen Master Dogen*

Northfield Buddhist Meditation Center

Northfield, Minnesota



Meditation

Inviting the Bell

May the sound of this bell penetrate deeply
into the cosmos.
In even the darkest spots, may living beings
hear it clearly
so their suffering will cease,
understanding arise in their hearts,
and they can transcend the path of anxiety
and sorrow.

Thich Nhat Hanh



Word by Vandorn Hinnant

Symbols Icons and Imagery

There are universal truths and a variety of images that cross the boundaries of all religions.

The Golden Rule: Treat others as you wish to be treated.

http://www.conexuspress.com/catalog/golden_rule_poster.htm



Religions of the World

Indigenous Religions

African Traditional
First Peoples
Native Americans
Shintoism

World Religions

Baha'ism
Buddhism
Christianity
Confucianism
Hinduism
Islam
Jainism
Judaism
Sikhism
Taoism
Zoroastrianism

Judaism



Star of David

Torah

Seder Plate

Menorrah



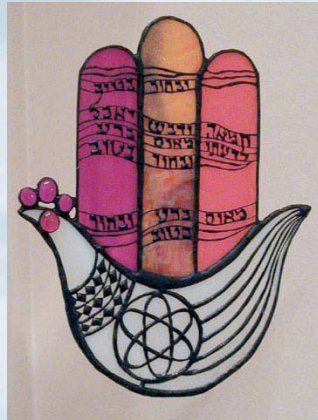
The title page of a Jewish Bible manuscript from Spain, either 13th or 14th Century, now in the Bibliotheque Nationale, Paris.
Photo: ak-g-images



Wall amulet (silver) (19th century) Courtesy of the Judaica Museum at the Hebrew Home for the Aged at Riverdale (Bronx, NY)



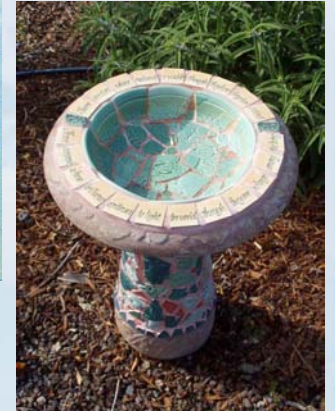
Shofar (Yemenite, antelope horn)



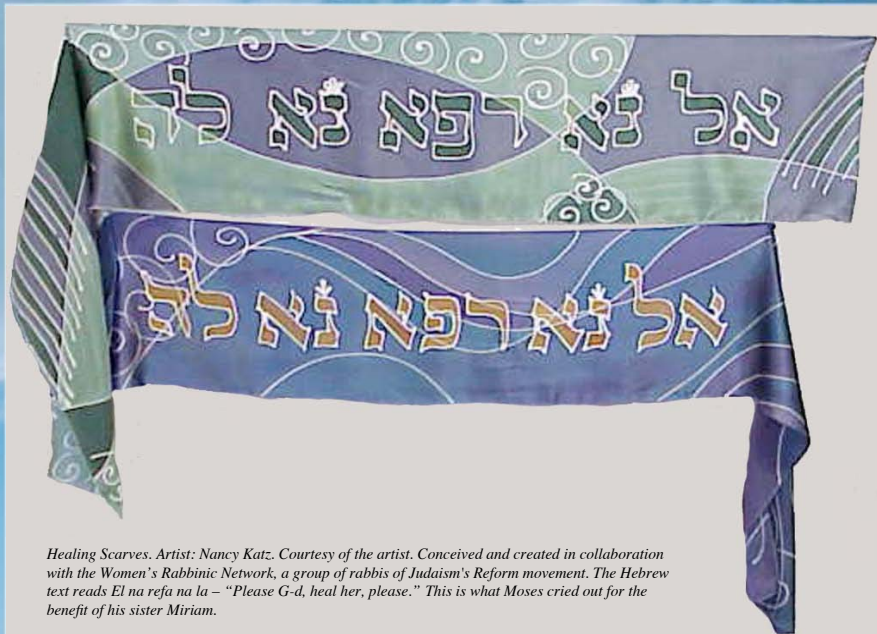
"Chamsa" or "five" digits in this "hand of God" are believed to have protective powers. Stained glass. Artist: David Nulman. Design by Tsirl Waletzky. Courtesy of the Judaica Museum at the Hebrew Home for the Aged at Riverdale (Bronx, NY)



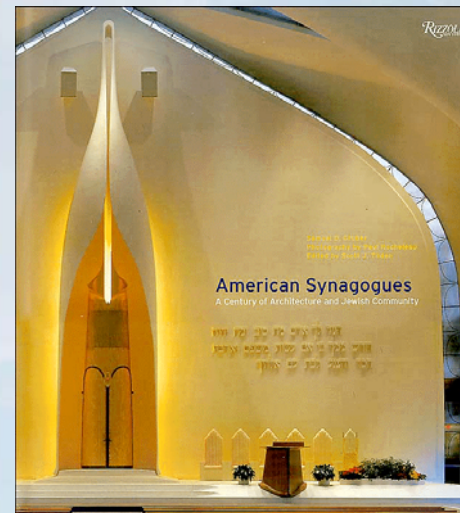
Hamsa (Papercut) Artist: Chana. Courtesy of the artist. The translation for the right is: "All who love the Lord he preserves", on the left: "Remove the evil forces that surround us."



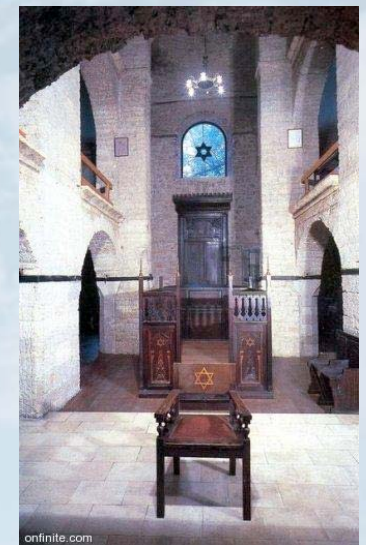
Untitled Artist: Leslie Gattman. Courtesy of the artist.



Healing Scarves. Artist: Nancy Katz. Courtesy of the artist. Conceived and created in collaboration with the Women's Rabbinic Network, a group of rabbis of Judaism's Reform movement. The Hebrew text reads El na refa na la – "Please G-d, heal her, please." This is what Moses cried out for the benefit of his sister Miriam.



American Synagogues: A Century of Architecture and Jewish Community by Samuel D. Gruber explores the exceptional architecture of modern American synagogues in the twentieth century.



Old Synagogue from 16th century. Sarajevo, Bosnia and Herzegovina
Photo © onfinite.com

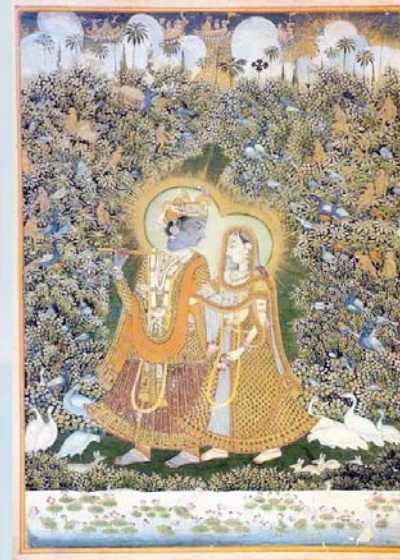
Hinduism



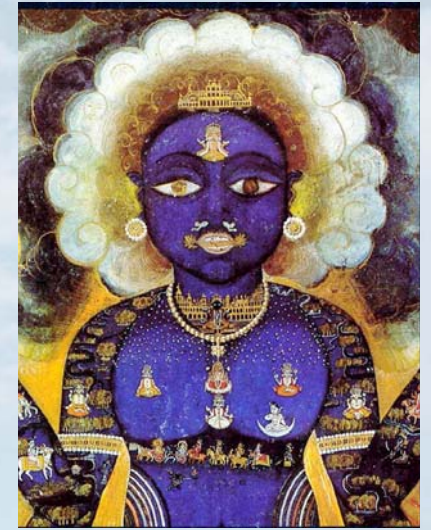
Swastika

Aum or Om symbol

Shiva (from Wikipedia)



Krishna and Radha, Jaipur c. 1810



Vishvarupa (Miniature, detail, Jaipur, ca. 1810)
Krishna is an incarnation or avatara of Vishnu (the Preserver).
Vishvarupa is the divine form of Krishna as revealed to Arjuna in the Bhagavadgita.

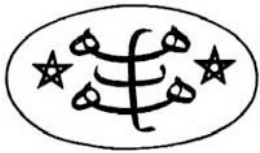


Hindu temple and flower in the temple – photos by Gary



Durga Temple
Fairfax Station, Virginia

Baha'i



The nine pointed star symbolizes completion.

The "ringstone" symbol is worn on rings by many believers. The three horizontal lines represent the three basics of Baha'i belief – the World of God, the World of God's manifestation, and the world of man. The vertical bar represents the connection of these worlds, and the stars flanking the glyph represent the Báb and Bahá'u'lláh, the founders and prophets of the faith.

The "symbol of the Greatest Name" is a phrase, "Yá Bahá'u'l-Abhá," or "Glory of Glories," rendered in calligraphy. "Baha," or glory, is also found in the name of Bahá'u'lláh.

(About.com)



Baha'i Temples
Kampala, Uganda and New Delhi, India

There is only one Baha'i temple on each continent.

Baha'i Temple
Wilmette, Illinois

Islam/Muslim



Islam has few traditional symbols. The crescent moon and star is due to cultural diffusion and the spread of Islam to the Ottoman Turks. It has since become associated with Islam. (Wikipedia.com)



Ceremonial shield 19th century gold, iron
National Museum of Indonesia, Jakarta
Banjarmasin, South Kalimantan, Indonesia

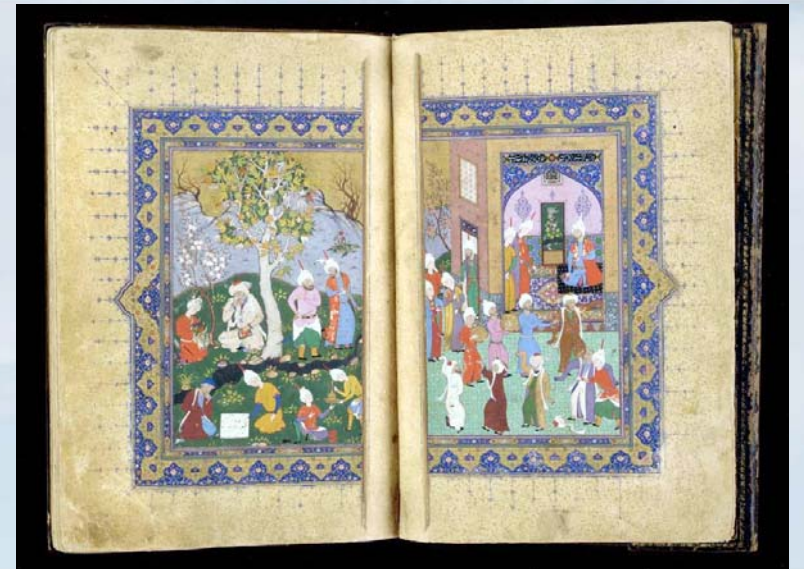


Calligraphic Composition containing Quranic verses including the Basmala (India or Iran, early 19th century).

The Basmala (In the name of God, the Compassionate, the Merciful), is the spoken formula recited at the beginning of all Muslim acts.



"Allah" in Arabic
(from ReligionFacts.com)



Adam and Eve from a copy of the *Falnama* (Book of Omens)
Ascribed to Ja' Far Al-Sadiq, ca. 1550



A portal at an Islamic Mosque in Singapore
Photo by Gary



From a copy of the **Haft Manzar** (Seven Visages) by Hatifi (d. 1521) The geometric designs and arabesque shapes of this painting are typical of Islamic architecture. These rhythmic patterns may help to untie psychic knots and grant the viewer a taste of infinity.



Folio from Qur'an: Sura 17: mid 64 - end 85.

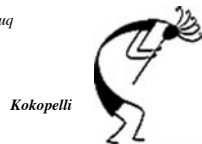
Amadou Bamba and Khassaid Elimane Fall, circa 2000
Khassaid is the name given to the lyrical poetry of Amadou Bamba. The saint's vast quantity of writing is considered one of his greatest miracles. This khassaid is to protect the world.



Native American



Bird Women (1973) by Janet Kigusiug



Kokopelli



Shaman's Costume (1984) by Lipa Pitsiulak
Printmaker: Gyta Eeseemailie

This image shows the transformation of the Shaman and the ease with which human and animal realms mix.



Papago Man in the Maze Basket
(<http://www.mc.maricopa.edu/>)

Drums
(<http://www.mc.maricopa.edu/>)



Aztec Sunstone
(<http://www.mc.maricopa.edu/>)





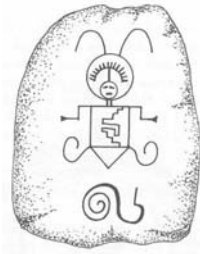
Taleelayu and Family (1976)

by Anaisie Alikatuktuk

Printmaker: Thomasie Alikatuktuk m.

The sea goddess Taleelayu (also known as Nulajuk and Sedna) embodies the idea of fertility. She is the giver of the abundance of life, but will withhold her animals if she is hurt or angered by human beings.

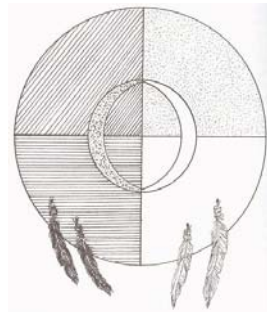
Hopi symbol of cosmic harmony
(<http://www.mc.maricopa.edu/>)



Hopi deity
Panaiyoikyasi

Souix Medicine
Shield symbol of the
universe

(<http://www.mc.maricopa.edu/>)



Buddhism



Lotuses are symbols of purity and 'spontaneous' generation and hence symbolize divine birth.

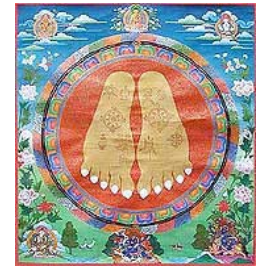


One of the Eight Offerings, light signifies the stability and clarity of patience, the beauty which dispels all ignorance.



The wheel symbolizes the Wheel of Buddhist Law, the endless cycle of birth and rebirth.

Tibetan Prayer Wheel
(www.aworldofgood.com)



Footprints of the Buddha
(www.buddhanet.net)



Medicine Buddha

The Medicine Buddha symbolizes the healing that occurs when ignorance and attachment are dispelled through the practice of meditation.



Kuan-Yin is the Chinese name for this female incarnation of the Buddha. She's venerated throughout Asia as an embodiment of compassion. Kuan-Yin above is holding sweet dew, the nectar of wisdom and compassion. It is to her that many come in the hour of need when they need someone to listen.



Green Tara

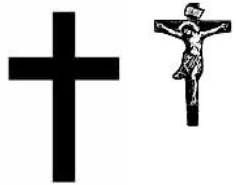
Tibetan deity Tara was born of a tear shed in sorrow for the world by the compassionate Buddha Avalokiteshvara.

Jizo Buddha

The childlike Jizo Buddha is venerated in Japan as a protector of children. He is a healer in the process of mourning the death of a child.



Christianity



The most well known cross is the **Latin cross**, which to Christians, represents the cross of Christ's crucifixion. When shown with the image of Christ, it is called a **crucifix**.
(altreligion.about.com)



Dove, symbol of the Spirit.
(www.biblepicturegallery.com)



Albrecht Durer's sketch of praying hands.



Early Christian symbol of a fish. Greek for fish is an acrostic for Jesus, Christ, God, Son, Saviour.



Wayfarers Chapel
The Swedenborgian Church
Rancho Palos Verdes, California



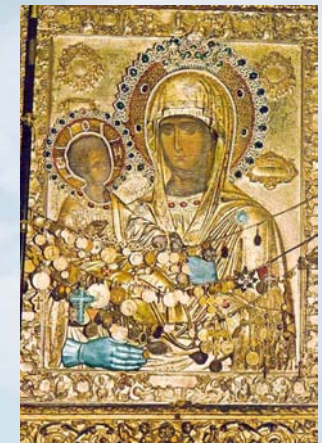
Zurich
Airport,
Switzerland



Sisters of Mercy Chapel
Owensboro
Mercy
HealthPark,
Owensboro,
Kentucky



Children's Hospital and Health Center Chapel, San Diego, California



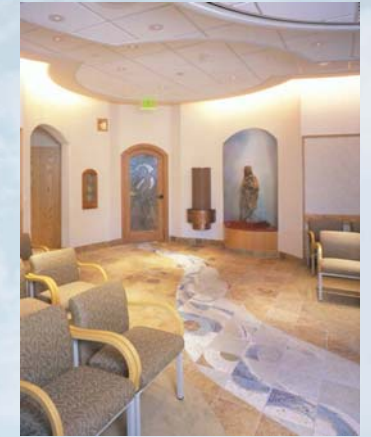
Greek Orthodox Christianity



*Shrine of Our Lady of Guadalupe
La Crosse, Wisconsin*



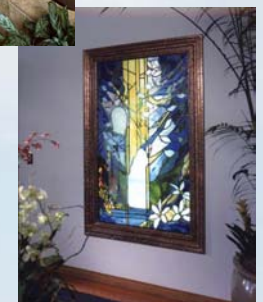
Catholicism

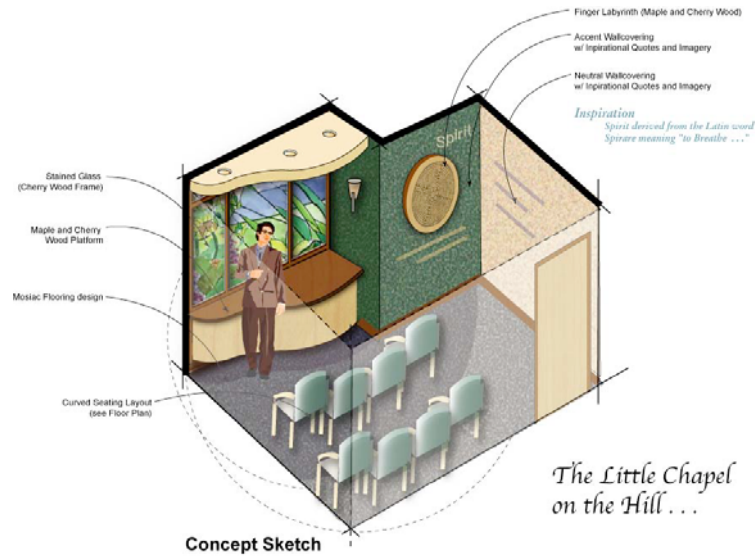


*Scripps Mercy Chapel
San Diego, California*



*Scripps Mercy Chapel
San Diego, California*





Linking Inside and Outside

An octagonal meditation chapel space looks out on a tranquil meditation garden, surrounded by glass walls.



*Community of Christ World Headquarters
Independence, Missouri*



Linking Outside and Inside

The colors are calm; elements of water, light imagery, sunlight, candles, and stained glass all create a feeling of inspiration and reflection.

Symbols such as clouds, sky, trees and water can be used to support the well-being of the human soul. In a time of confusion, sadness and reflection, a sanctified space provides a much needed retreat or respite from the worries of life.



Universal Imagery

The images evoke peace, comfort, hope and Spirit.



For the peacemakers,
the bridge builders, all
who look out and see.

*Images from "A One Song"
by Michael Green*



*We wish to acknowledge Patricia Novick for many of the images and prayers
borrowed from her original presentation **Healing Art: The Power of Faith.***

Case Studies

Designed **Ambient Sound and Music** Enhances the
Health and Wellbeing of Patients, Caregivers and
Staff

Custom Designed Music is Proven to Reduce Stress
and Pain for Patients in Specific Treatment Protocols

“Carefully selected music can reduce stress, enhance
a sense of comfort and relaxation, offer distraction
from pain, and enhance clinical performance.”

Southern Medical Journal, 2005

“On the day of surgery, patients exposed to music in
combination with therapeutic suggestions required
less rescue analgesic compared with the controls.
Patients in the music group experienced more
effective analgesia the first day after surgery and
could be mobilized earlier after the operation.”

Anesthesia, 2003

“Music effectively reduces anxiety and improves mood for medical and surgical patients, for patients in intensive care units and patients undergoing procedures. Music also improves quality of life for patients receiving palliative care, enhancing a sense of comfort and relaxation.”

Southern Medical Journal, 2005

“A meta-analysis on music research with premature infants in neonatal intensive care units showed an overall large, significant, consistent effective size of almost a standard deviation ($d=.83$). The homogeneity of findings suggests that music has statistically significant and clinically important benefits for premature infants in the NICU.”

Journal of Pediatric Nursing, 2002

“Use of intra-operative music in awake patients decreases patient-controlled sedative and analgesic requirements.”

Anesthesiology, 1998

“The planned use of music by mothers and caregivers can be an aid to prenatal preparation and an important adjunct in pain and stress management during labor and birth.”

Birth, 2000

The Role of the Physical Environment in the Hospital of the 21st Century: A Once-in-a-Lifetime Opportunity

Report to the Center for Health Design
funded by Robert Wood Johnson Foundation

Roger Ulrich, College of Architecture
Texas A & M

Craig Zimring, College of Architecture
Georgia Institute of Technology

Literature Review

130 references focusing on noise in hospitals in three categories:

- Those that measure noise levels in hospital spaces but do not assess outcomes
- Studies of the effectiveness of environmental or organizational interventions in reducing noise
- Investigations of the effects of noise on outcomes

Hospitals are Sonically Unhealthy

- World Health Organization guideline values for background noise in hospital patient rooms are between 35db and 40db
- Studies have shown that background noise levels are typically 45 to 68db with peaks frequently exceeding 85 to 90db

Hospitals are Sonically Unhealthy

- Each 10db is the equivalent of doubling the perceived sound level
- Medical equipment near the patients' heads often produces 70 to 75db – equal to a noisy restaurant
- Portable x-ray machines can register 90db – the same as a motorcycle or a large truck

Noise Sources: Too many, too loud

- Paging systems
- Alarms
- Bedrails moving up and down
- Telephones
- Staff voices
- Ice machines
- Pneumatic tubes
- Trolleys – equipment moving

Research-Based Interventions

- Single-bed rooms
- Eliminating open bay rooms
- High performance sound ceiling tiles
- Eliminating or minimizing overhead paging
- Carpeting or introduction of other sound absorbing materials
- Consciousness of the sound environment during design

Areas for Future Research on Music and Sound

- The perception of waiting
- Staff morale
- Patient and visitor experience
- Reduction of medical errors
- Pain medication
- Patient comfort and sleep in ICU, CCU, pre- and post-op
- Patient comfort and reduction of stress in dialysis, infusion and cardiac cath procedures

What can designers do about this?

- Design for desired projected sound environments in all clinical and waiting spaces
- Ask questions about sound levels of equipment and design for them
- Educate clients on the importance of sound
- Bring in acoustical consultants when appropriate



Music: A Container for Health

- Modifies perception of time and space
- Stabilizes mental and physical states
- Reduces stress
- Modifies pain perception
- Prolongs psychological processing

What are the options available?

In years past the options of the observant minority included:

- Do nothing—‘there are no options’
- Get some kind—any kind—of music
 - Personal music sources
 - Piped in radio
 - Piped in music
 - Records, tapes, CDs

Case Study

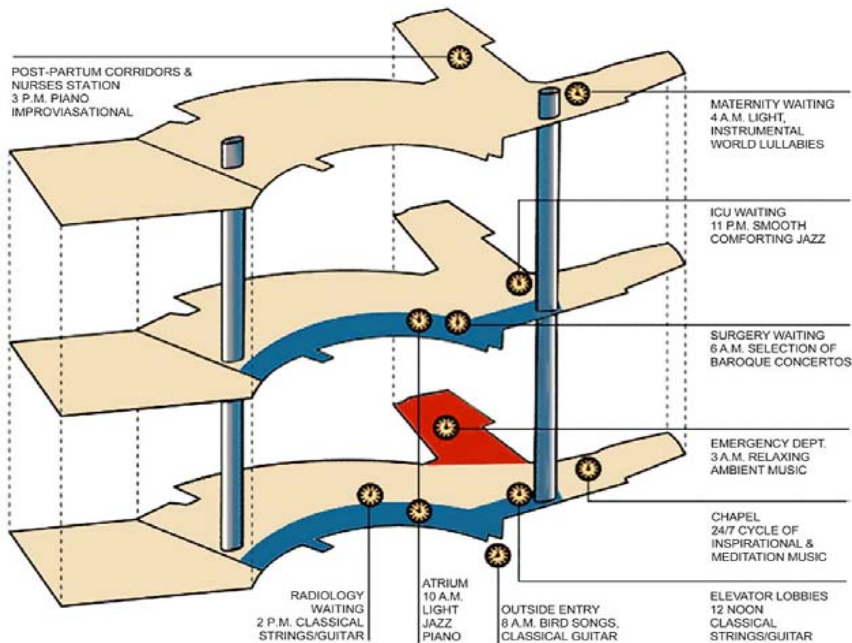
Exempla Good Samaritan Medical Center

Lafayette, Colorado



Harmonic HealthCare™

- Natural sounds in the outer world
- Welcoming sounds in the reception area
- Comfortable sounds for the emergency waiting area
- Uplifting sounds for the maternity waiting area
- Inspiring sounds for the chapel
- Focusing sounds for the administration area
- Soothing sounds for outpatients
- Refreshing sounds for the staff



Hallmark Channel Segment

Exempla Good Samaritan Medical Center

Lafayette, Colorado



Ergonomics

- The science that seeks to adapt the **work** and **work environment** to meet the physical and psychological needs of the **worker**
- Scientific and academic research in the field of ergonomics is an ever-changing phenomenon, where today's studies and conclusions are often challenged by tomorrow's findings.

SonicErgonomics™

- The science that seeks to set standards and adapt the **work environment** to meet the physical and psychological needs of the **worker** with respect to sound, noise and its related aspects



Designed Music & Sound Environment in Hospitals -an interdisciplinary research project



The people behind the Musica Humana organization



Per Thorgaard, M.D., head of dep. of anaesthesia and intensive care, Aalborg University Hospital, Denmark
Chairman of Musica Humana



Professor **Lars Heslet, M.D.**, head of the intensive care clinic 4131, Rigshospitalet, Denmark



Vibeke Hjorth, Anni Norregaard, Lene Spanggaard, Niels Eje, Vibeke Hansen, Bitten Thorgaard, Inge Mulvad Eje, Per Thorgaard.



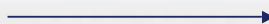
Specialist nurse **Ulrica Nilsson, PhD**, Senior Lecturer, Örebro University Sweden



Doctor and music therapist **Audun Myskja**, Norway. Founder of "Senter for Livshjelp"

Since 1998 The Musica Humana organization in Denmark has been based on a close collaboration between specialists in the fields of: Music composition, nursing, music therapy, medical science and psychology. In 2004 The Musica Humana group has expanded the research activities to include the Scandinavian countries Sweden and Norway.

A unique interdisciplinary collaboration between researchers in hospitals and composer, producer and musicians – for a common goal



Music is produced, tested, edited, re-edited and refined according to:

- Research results
- Feedback and reactions
- Experience

Aalborg University Hospital



Intensive Care Medicine



Anesthesia



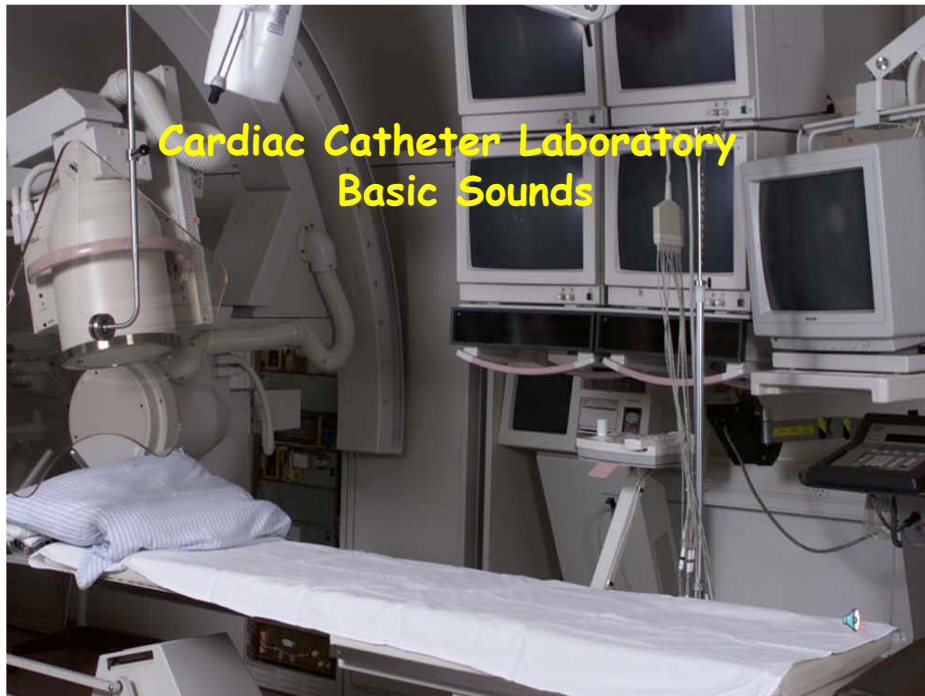
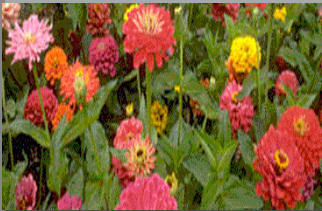
Anesthetic tools



"TOOLS"

- Analgetics (opioides, NSAID's, local analgetics, a.o.)
- Catheters placed in the vicinity of afferent nerve fibers
- Hypnotics ("gas", barbiturates, a.o.)
- Others:
 - Reduction of negative environmental factors
 - Creation of positive environmental factors

What is a "designed environment" ??



Basic Sounds & Specially Designed Music



How the patient experiences the hospitalization Frightening technology vs. Optimistic and inspiring nature



Playing music for patients is a great responsibility:

A very clear definition of the fundamental principles of the designed sound environment at hospitals is essential

- What type of music?
- What kind of sounds?
- Who is the target Group?



Organization Profile

The aspects of the work of the organization:

- 1) Creation of research protocols and clinical trials investigating and describing the significance of the sound environment in hospitals.
- 2) Composition and production of music specially designed for specific clinical situations and patient groups.
- 3) Scientific documentation of the results.
- 4) Publication and dissemination of the documented research results and the specially designed music to other hospitals, clinics, institutions and private users around the world.

INTRODUCING A NEW SOUND ENVIRONMENT IN HOSPITALS

Present Focus :

1. Intensive Care Patients

Heavily sedated or comatose patients

2. Recovery Patients

3. Cardiac Patients

Ambulatory cardiac patients

4. Psychiatric patients and other patient groups (Alzheimer's, etc.)

Future Focus:

1. Children

2. Infusion Therapy, and other ambulatory patient groups

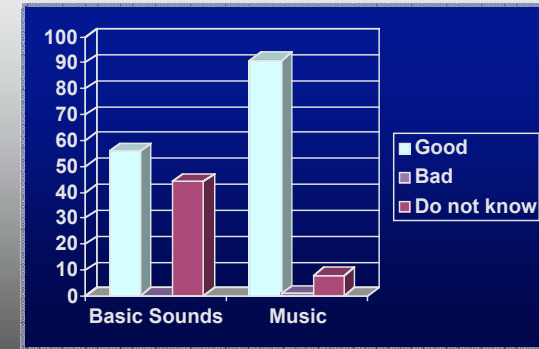
3. Pre and post high anxiety procedures.



Multicenter post anesthetic care unit project, Ataraxia project and other Musica Humana trials with PACU patients:

Patient experience of sound environment during recovery from anesthesia.

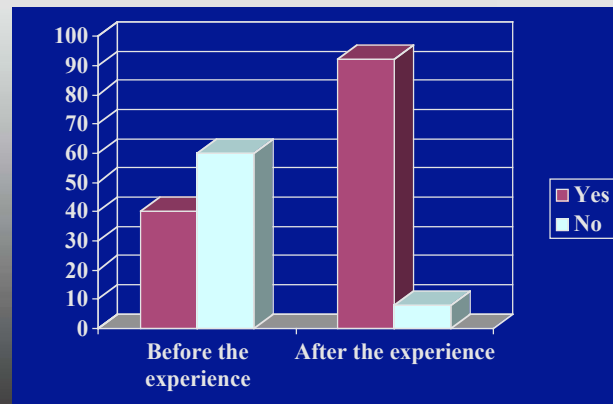
– average of more than 1000 patients



Patients at the Cardiac Catheter Laboratory Patient expectations and experiences

Number of patients 400

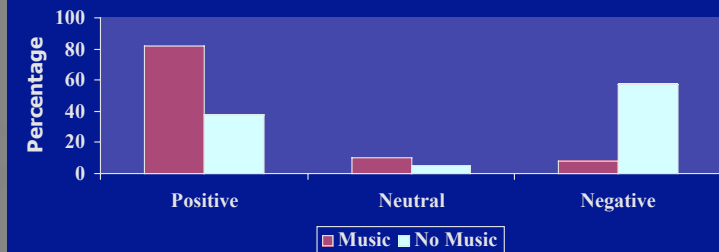
Do you wish to listen to music if possible during the procedure?
--Did you like the music sound environment
(specially designed music had been played in the background during procedure)?



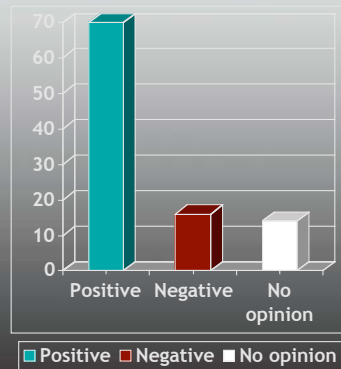
Data from the study "effect of music on pain, nausea, well being and anxiety in a PACU" (Pilot project *Ataraxia*)

Number of patients: 200

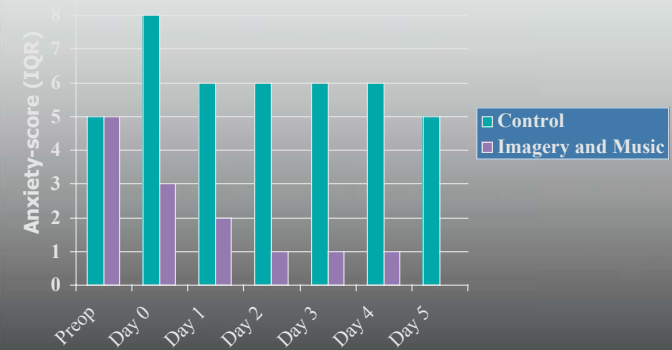
Positive/neutral/negative experience of stay at PACU



Staff-opinion of designed music sound environment at PACUs – average for all studies (ceiling suspended loud-speakers)

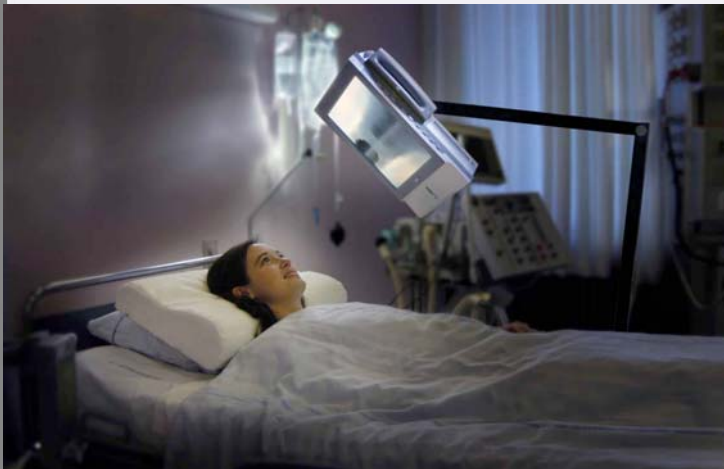


Imagery and Music reduced fear and anxiety (Cardiac Cath Lab) patients)



D.Tusek: 1999

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